



I. HIGH PERFORMANCE CREATIVITY

[SCREAMSHEET]

Executive Summary:

Creativity is the ability to *recognize new connections and patterns* between elements residing in your “library” of long term memories. A moment of inspiration occurs when this newly recognized pattern is seen as a whole or partial solution to an existing problem.

Your **creative skills** can be enhanced by four primary means:

- Enhancing your general mental performance
- Enhancing your memory skills
- Growing your library of long term memory objects
- Learning to use creative thinking tools

General Mental Performance:

- A well functioning mind will perform at a higher level
- Aerobic exercise improves cognitive performance
- A healthy body feeds a healthy mind (garbage in, garbage out)
- Sleep (nightly and naps) improves cognitive performance
- Stress deteriorates mental performance (learn relaxation techniques)

Memory Skills:

- Become memory literate
- Experiences that stimulate multiple senses have a greater chance to become long-term memories
- Vibrant, active and interesting experiences are easier to remember
- Repetition is essential to maintain long term memory
- Vision is our dominant sense, while smell enhances recall ability

Grow Your Library:

- More memories and experiences give you more fuel for pattern seeking
- Read constantly
- Seek out experiences outside of your comfort zone
- Learn to listen and observe
- Challenge your senses

Learn Creative Thinking Tools:

- Abstraction tools can help guide the pattern seeking process
- Think of the tools as blades of a Swiss Army knife
- Learn multiple abstraction techniques
- Explore the same problem with multiple techniques and tools



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II. Diet and Exercise

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Keeping your body properly fueled and in solid physical shape is key to having a sharp mind. Please remember, before you do any major dietary or exercise switch, check with your doctor to make sure you are doing the best for your body and your mind.

Diet:

Garbage in, garbage out	<p>Programers know this phrase well, and it translates to your body too—the fuel you put into your body is reflected in the performance of your body.</p> <p>A healthy brain diet has four components: calorie control, antioxidants, "good" fats (omega-3s), and "good" carbs (complex carbs that don't immediately spike blood sugars).</p> <p>Cognitive "food pyramid": veggies, fruits, whole grains, nuts, fish, other meat</p>
Some dietary pointers	<ul style="list-style-type: none"> • Drink water whenever possible (also good are non-caffeinated teas and fruit juices), but in small 2oz quantities • Seriously limit your refined sugar intake • Choose whole wheat products over refined flour products (and brown rice over white rice) • Limit your carb intake, but don't avoid carbs altogether • Keep your animal fat (omega-6 fats) intake moderate • Eat plenty of omega-3-rich foods (such things as salmon, herring, olive oil, avocados, and walnuts) • Moderate caffeine intake, below the "jitter" level, is ok • A drink or two at the end of the day won't hurt and may help your cognitive abilities (it doesn't really matter what type of alcohol) • Take a multivitamin (one with B-12 and folic acid) • If you can help it, don't smoke
Power meals	<ul style="list-style-type: none"> • <i>Breakfast:</i> break the meal into two chapters, when you wake up and later morning. Begin the day with some fruit (ideally citrus or berries) instead of coffee. Later in the morning, have a whole wheat cereal with berries or wheat toast with eggs. • <i>Lunch:</i> bigger lunch than dinner is better. Have a large salad with eggs or salmon. Finish it up with some yogurt mixed with nuts (especially walnuts or almonds). • <i>Dinner:</i> keep the portions small, but very flavorful. Take your time and savor the meal as a trigger to wind down.

Exercise:

What's the plan?	<p>The key to finding an exercise plan that will promote your cognitive health is to find something that builds your aerobic capacity (more oxygen to your brain!), lowers your fat level and is fun. Some of the best exercise systems: aerobics, swimming, martial arts, dance and rowing.</p>
Exercise 101	<ul style="list-style-type: none"> • When exercising, practice good breathing—breathe through your nose and don't hold your breath during exertion—that's the time to exhale. • Do some basic aerobic exercise regularly: walk to work, ride your bike, play a sport, run around and chase your kid—just let yourself get winded, it's good for you • Look into Pilates or some other simple set of exercises that will strengthen your "core"—your lower back and abdominal muscles, since these are the muscle groups we rely on most • Stretch to increase your flexibility—stretch your calves, hamstrings, lower back—make stretching part of your daily wrap-up ritual



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III. Mental R & R

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Sleep:

Your body needs sleep	Your body and your mind need to recharge each night, and sleep is how we do this. Your physical body needs between 5-6 hours of sleep each night to rest and repair itself. This initial sleep is often devoid of much R.E.M. dream sleep, which is what your mind needs to recharge itself. Figure another 2 hours of sleep are needed for dreaming and mental recharging (most dreaming occurs after your first 5-6 hours of sleep), for a total of 7-8 hours of ideal sleep per night.
Some sleep pointers	<ul style="list-style-type: none"> • Sleep in a darkened room, on a firm and comfortable mattress • De-stress and “turn off” your mind before you climb into bed (don’t think about your worries or your day to come right before sleep) • Don’t eat for 90 minutes before bed • Don’t read in bed—make bed for sleeping only. Read in a comfortable chair, preferably not in the bedroom • Stick to a regular sleep schedule as much as possible—sleep isn’t something you can “catch up on” on weekends

Lucid Dreaming:

What is Lucid Dreaming?	Lucid dreams are dreams you have in which you are fully conscious and aware that you are dreaming. You can fly, do anything you wish, and in general, have a mental vacation.
How do I have a Lucid Dream?	You need to train yourself to know when you are dreaming. The easiest way to do this is to get into the habit, every hour or so, of looking at a book title or a digital clock nearby, making a note of what it says, and then turning away for a second. Look back again—does it say the same thing? If so, you are awake—in a dream, it will say something different, and this is your cue: you’re dreaming!
What if I start to wake up?	If you feel yourself starting to wake up, outstretch your arms and start spinning slowly—this will pull you back into sleep and your dream state.

Relaxation:

Relax dude!	The word “relax” has its origin in the Latin word “relaxare” which means “to loosen”. When we engage in relaxation techniques we are in effect loosening tension, releasing tightly held energy and letting go. Relaxation is a way to level out stress and “rest” our minds and bodies.
Simple relaxation techniques	<ul style="list-style-type: none"> • Give yourself a cue—tell yourself it’s time to wind down, like slipping into sweat pants or a favorite t-shirt when you get home. • Sit quietly—sit quietly and calmly for 3-5 minutes. • Less clutter—clear your world of needless clutter. • Breathing—give yourself some deep breathing; breathe in for 7 seconds, hold for 7 seconds and exhale for 7 seconds. Breathe through your nose and breathe deep—if you do it right, you won’t hyperventilate or be gagging for air. • Have an end-of-day ritual—have a regular ritual as you prepare for bed, something that you look forward to.



IV. MEMORY

[SCREAMSHEET]

Your memory is perhaps the most important tool in your mental toolbox. Memory is essential to develop a depth of knowledge about a subject, and it is the foundation upon which creative thought can happen. We all have different levels of memory ability, based on our experiences and physiology, but we can *all* increase or memory effectiveness with practice.

Memory Terms:

Short Term Memory	This is a mental “bucket” that can hold information for immediate processing. Short term memory can consist of recent sensory data or information retrieved from long-term memory. The capacity of short term memory is limited, in both data and duration. Often, information in short term memory will degrade in 30 seconds or less.
Miller’s Number	George Miller experimented on short term memory in the late 1950s and found the capacity of short term memory to be seven units, plus or minus two.
Chunk	A chunk is a conceptual unit of information. It can be as small a single digit or letter or as complex as a phone number or a name.
Long Term Memory	Long Term Memory is the “bucket” that can hold information for 30 seconds to decades or longer. It is thought that information moves from short term memory into long term memory through a process called Long-Term Potentiation: an increase in the chemical strength of a synapse that can last for days or even years.
Eidetic Memory	Also called “photographic memory,” it is the ability to recall images, sounds or objects in long-term memory with great accuracy. Recent experiments indicate that this may not, in fact, be a unique type of memory—rather, it is a trainable ability.
Mnemonic	A “trigger” that can be used to help a person remember an object, name or sequence of information. Common mnemonics include “Roy G Biv” or tying a string around your finger to help you remember.

Keys to Long Term Memory Retention:

Logical Structure	Organize information in a logical structure that follows some sort of understandable rules that you already are familiar with and understand.
Vibrant Imagery & Senses	Create vibrant, colorful mental imagery to represent the items you wish to remember. The more unique the image, the easier it is to remember. Engage multiple senses to maximize the potential for high-level recall.
Connections	Create meaningful connections between the imagery and the objects you wish to remember. Also, create connections (for example: a journey) between the string of information images you are striving to remember.
Repetition	To anchor a memory in your mind, you need to repeat the memory or sequences of images. Often five or six repetitions will be enough to anchor the memory in your mind. A phenomenon called the “Spacing Effect” demonstrates that repetition is most effective when there is space between the iterations. Repeating a sequence five times rapidly isn’t as effective as repeating it once a day for five days.



V. CREATIVE THINKING TOOLS

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There are many ways in which we can connect and transform relationships between objects in new ways. The mental tools below outline some of the ways in which we can make new, creative associations.

Thinking Tools:

Observing	Learn to observe the world around you fully, using all senses (observation is not visual alone). Key into the things around you all the time but invisible to you (power lines, light bulbs, etc.). Collect something (stamps, coins, insects, postcards, etc.) – the more experienced a collector you are, the keener your observational skills are related to your collection.
Imaging	Learn to “image” internally, using your virtual senses of sight, sound, smell, taste and touch. Imagine “the look of things you cannot see.” Imagine a story you read as a movie, a radioplay, as something that you are a part of. Train yourself to visualize with clarity and vibrancy across multiple senses—don’t just see the imaginary banana, but taste it and smell it.
Abstracting	Learn to abstract concepts internally. The act of abstracting can be defined as “the possibility of considering an object under one viewpoint while disregarding all other properties of the object. The essence of abstraction consists in singling out one feature, which, in contrast to other properties, is considered to be particularly important.”
Pattern Recognizing	Pattern recognition requires both sensory input and conceptual analysis. It is the discovery of an existing association or structure. Recognizing a pattern gives us a window into understanding and predicting behavior.
Analogizing	In general, an analogy illuminates a functional resemblance between things that are otherwise unlike (as opposed to a “similarity”, which is an observed resemblance). Analogies can give us the ability to understand the world in new ways, or access the previously incomprehensible.
Empathizing	Allow yourself to “enter” another person, animal or object, and experience the world from a new viewpoint. Pretend that its world is your world, its sense organs and physical attributes your own.
Modeling	Modeling is the ability to create a representation (physical, functional, theoretical) of an object or situation based on the results of abstracting and or analogizing. The model allows interaction with, and understanding of a complex object or situation.
Playing	Playing is an enjoyable “non serious, non functional” activity in which we interact with others and the world, often within a framework of a created ruleset, to “see what will happen.” We play games, we splash in puddles, we spin coins, we juggle—and in so doing, we practice both life skills and creativity skills.
Transforming	Transforming your own personal, internal insights and observations, often earned using the above tools (and often very you-specific), into a format that is communicable and understandable to others is a vital creative and communicative skill.
Synthesizing	Synthesizing is creating a complex whole by combining disparate parts. Synthesizing perceptions with impressions garnered using the above tools can leader to a deeper and fuller understanding of an object.



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VI. ADDITIONAL CREATIVITY EXERCISES

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<p>Limited Story Write a piece of “sudden fiction,” 500 words max, and give yourself a 30 minute time limit. Give the story action and purpose. Don’t concentrate on “flowery language” but rather quickly reporting a dynamic mini-story.</p>	<p>The “Andre Breton” Find an interesting and yet mundane view out of a window and do “automatic writing” on what you see for 5 minutes. Write the words and phrases that come into your mind as quickly as possible with not pausing for thought or structure.</p>
<p>Fiction into game Give yourself 1 hour: take an interesting short story or novel and write up a focused, play-centered description of a game (called a game design treatment) that would capture the most important aspects of the fictional experience.</p>	<p>Game into fiction Take one of your favorite games (a board game, a computer game or a console game) and write a fictional narrative of the adventure you had while playing. Think of yourself as a storyteller in the oral tradition—share your imaginary adventure.</p>
<p>Keep a scrapbook Keep a scrapbook of any news stories, pictures, stories, <i>anything</i> that catches your eye. A cheap sketchbook and tape will do the trick. These can be used at a later date as an aid to creativity. Anything that inspires you but you can’t use immediately should go in the scrapbook for later. Doodle notes, pictures and comments on the pages.</p>	<p>Biography snapshot Take a picture from a newspaper, magazine or poster. Create an identity for the person (if it’s someone famous, give them a new identity) and write a brief description of what was happening just before, just after and just as the picture was taken. How do they talk? How do they move? How do they sit alone in a room?</p>
<p>Miniature worlds Go on a walk and collect interesting objects you find along the way to make a “miniature world” diorama (inside a shoebox is great) and then put it away for a week. When you come back, write a short essay on how the world functions and what makes it wondrous.</p>	<p>Scroll timeline Get a roll of paper (10’ should do) and create a “timeline” for your life so far (or your marriage). Mark on it every time you’ve moved, where you’ve lived, school, major events, the structure. Then go back and fill in the details... tell the little, magical and intense stories that really define who you are.</p>
<p>Reading Read every day, at both mental peak and valley times, train yourself to see more than a single word at a time (your mind can do it)-shoot for 4-5 words at once, and read all subjects (fiction and non-fiction). Read multiple books at one time (at least one fiction and one non-fiction). Use a visual “skimming aid” to help you take in more words. Practice speed reading regularly.</p>	<p>Decode the “real world” Play a “use your body” game and deconstruct it (go-karts, paintball, softball, Frisbee golf, etc.). Analyze (like Da Vinci) the things around you that you see every day... how does electricity get to your house? How does a gas-electric hybrid car work? How do fish know how to swim in schools? Take a notebook to a crowded coffee-shop and document and doodle your observations.</p>
<p>Mental Castle Create a vibrantly imagined “virtual museum” where each exhibit room contains related memories and visualizations. Imagine the objects you wish to remember is vibrantly as you can, but imagine them in an exhibit setting. “Visit” often to burn the memories into your long term memory. See the Thomas Harris books “Hannibal” and “Hannibal Rising” for a description of this technique.</p>	<p>Riding with Benjamin Franklin If he was transported into our time and your job was to drive him from here to there, before he has had any chance to experience our world-what would you talk about? What things would he notice out the car window that would be fascinating to him (what things would he notice <i>in</i> the car?). Imagine you are his first significant contact with our time: how would you explain the world around him?</p>